

**Clean Copy of Amended Abstract**

**ABSTRACT**

The invention relates to an isolated osteocalcin fragment derived from human virus, said fragment being characterized in that at least one of the glutamic acids in the position 17, 21 and 24 of the amino acid sequence (1) is gamma-carboxylated. The invention concerns further a monoclonal antibody or recombinant antibody fragment capable to bind said fragment, a cell line producing said monoclonal antibody, and an immunoassay for quantitative determination of said fragment. Furthermore, the invention concerns a method for the measurement of the rate of bone turnover (formation and/or resorption) and/or for the investigation of metabolic bone disorders.

PS  
Tyr-Leu-Tyr-Gln-Trp-Leu-Gly-Ala-Pro-Val-Pro-Tyr-Pro-Asp-Pro-Leu-  
17 21 24 30  
Glu-Pro-Arg-Arg-Glu-Val-Cys-Glu-Leu-Asn-Pro-Asp-Cys-Asp-Glu-Leu-  
Ala-Asp-His-Ile-Gly-Phe-Gln-Glu-Ala-Tyr-Arg-Arg-Phe-Tyr-Gly-Pro-

Val (SEQ ID NO:2) (I)

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